

Oreodendron C. T. White reduced to *Phaleria* Jack (Thymelaeaceae, Thymelaeoideae)

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Summary

Herber, B.E. (2001). *Oreodendron* C.T. White reduced to *Phaleria* Jack (Thymelaeaceae, Thymelaeoideae). *Austrobaileya* 6 (1): 95–97. The monospecific genus *Oreodendron*, endemic in Queensland, has been distinguished from the related genus *Phaleria* by the absence of involucre bracts, the presence of a short pedicel and the arrangement and exposition of stamens. A study of these characters in *Oreodendron* shows that involucre bracts are present before anthesis. Furthermore, the presence of a short pedicel as well as the arrangement and exposition of stamens, said to be characteristic of *Oreodendron*, also occur in *Phaleria*. Therefore, *Oreodendron* is reduced here to synonymy of *Phaleria* and the new combination *Phaleria biflora* (C. T. White) Herber is made for White's species. A key to identify the four Australian species of *Phaleria* is provided.

Key words: Thymelaeaceae, *Oreodendron*, *Phaleria*

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Introduction

The genus *Oreodendron* C. T. White with one species, *O. biflorum* C. T. White was established in 1933 based on a collection of S. F. Kajewski from Thornton Peak ("Mount Alexander"), Queensland, Australia. White (1933) stated that his new genus is "closely allied" to *Phaleria* Jack, a genus of about 30 species distributed from Malesia to Sri Lanka, Micronesia, the Samoan Islands, Tonga and Australia. Till now the Australian species recognised are *P. clerodendron* (F. Muell.) Benth., *P. octandra* (L.) Baill. and *P. chermsideana* (Bailey) C. T. White. *Phaleria* is mainly characterized by its bilocular ovary. In subfamily Thymelaeoideae, the gynoeceum is typically unilocular, only in tribe Phalerieae, comprising *Oreodendron*, *Phaleria* and the African genus *Peddiea* Harv., are there bilocular ovaries. In addition to *Oreodendron* and *Phaleria* sharing this character, they also share a non-articulated floral tube, a diplostemonous androecium, terminal insertion of the style and the presence of a floral disk. White (1933: 74-75) claimed that *Oreodendron* differs from *Phaleria* in "...the absence of involucre bracts at the top of the peduncle, in the flowers being pedicellate

not sessile and in the anthers being arranged in two very distinct series, the lower series being included". The genus *Oreodendron* is widely recognized (e.g. Hutchinson 1967, Takhtajan 1997). On the other hand, Domke (1934), who was not able to examine any material of *Oreodendron*, accepted the genus only with reservation. In her contribution for the Flora of Australia, Rye & Heads (1990: 130) remarked "[t]his genus is very closely related to *Phaleria* and needs further study to determine whether or not it should be retained as a separate genus" and of *O. biflorum* that it "[s]omewhat resembles *Phaleria chermsideana*".

Results and Discussion

Absence of involucre bracts.- The capitate inflorescences of *Phaleria* are provided with two to more bracts in the distal part of the peduncle, which are often deciduous before or at anthesis. In *Oreodendron biflorum*, two involucre bracts are developed (Fig. 1A,B). These two bracts are minute and deciduous before anthesis. On peduncles of open flowers, it is almost impossible to detect their scars and they are easily overlooked.

Presence of a pedicel.- The pedicel of *Oreodendron biflorum* is about 0.6 mm in length (Fig. 1A,B). Short pedicels are common in *Phaleria* too. In all Australian species pedicels up to 0.3 mm length sometimes occur (see Rye & Heads 1990). Neither Ding Hou (1960) nor Smith (1981) mentioned the presence of a pedicel in *Phaleria*, which may be due to its length of less than 1 mm. In such cases a distinction between sessile, sub-sessile or pedicellate flowers is questionable.

Arrangement of stamens.- The stamens in *Oreodendron* are arranged in two clearly separate series as described by White (1933). The same basic arrangement is found in *Phaleria*, where the stamens are usually inserted in two distinct series on the upper half of the floral tube as well.

Exposition of stamens.- In *Oreodendron* the anthers of the upper whorl are slightly exerted, whereas those of the lower whorl are included in the floral tube (Fig. 1C,D). The position of anthers in *Phaleria* is sometimes as in *Oreodendron* (e. g. as in *Phaleria disperma* (Forst. f.) Baill.), or all anthers are either exerted or rarely included. Heterostyly is common in *Phaleria* and occurs in two of the Australian species, *P. clerodendron* and *P. chermsideana*. It is unlikely but cannot be excluded that *Oreodendron* is heterostyly too. Nevertheless, neither the occurrence of heterostyly nor the arrangement or exposition of stamens provides characters to discriminate between *Oreodendron* and *Phaleria*.

Not a single character that would justify the generic distinction of *Oreodendron* has been confirmed. The arguments used by White (1933) for treating *Oreodendron* as a genus distinct from *Phaleria* Jack have proved to be based on incomplete observations or are irrelevant for the generic delimitation in question. Therefore, *Oreodendron* is reduced to a synonym under *Phaleria* and the following combination is made:

Phaleria Jack, Malayan Misc. 2: 59 (1822).
Type: *P. capitata* Jack

Oreodendron C. T. White, Contrib. Arnold Arbor. 4: 74 (1933), **synon. nov.** **Type:** *O. biflorum* C. T. White

Phaleria biflora (C. T. White) Herber, **comb. nov.**

Oreodendron biflorum C. T. White, Contrib. Arnold Arbor. 4: 74–75 (1933). **Type:** Queensland. COOK DISTRICT: Thornton Peak, 18 Dec 1929, S. F. Kajewski 1499 (iso: BRI, B) Queensland

Selected specimens: **Queensland.** COOK DISTRICT: Daintree NP, Black Mtn area, Daintree River headwaters, May 1998, *Forster* et al. PIF22957 (BRI); Thornton Peak, Dec 1946, *Flecker* 7093 (BRI); North Mary L.A., SF 143, Jul 1994, *Forster* et al. PIF 15627 (BRI).

Phaleria now includes four species in Australia: *P. clerodendron* (F. Muell.) Benth., *P. octandra* (L.) Baill., *P. chermsideana* (Bailey) C. T. White and *P. biflora* (C. T. White) Herber. Most similar to *P. biflora* is *P. chermsideana*, which can be distinguished as outlined in the key below.

Key to Australian species of *Phaleria*

- 1. Leaf blade (1–)4–7(–9) cm long; involucre bracts 2 2
 Leaf blade (8–)13–17(–24) cm long; involucre bracts 4 3
- 2. Leaf blade ovate; inflorescence 2 (rarely 3)-flowered; septum of fruit thinner than seed-coat **P. biflora**
 Leaf blade elliptic. Inflorescence 4–10-flowered. Septum of fruit thicker than seed-coat **P. chermsideana**
- 3. Inflorescence 5–7-flowered; floral tube at anthesis 25 mm long or more; fruit when mature > 23 mm long **P. clerodendron**
 Inflorescence 8–25-flowered; floral tube at anthesis up to 17 mm long; fruit when mature < 20 mm long **P. octandra**

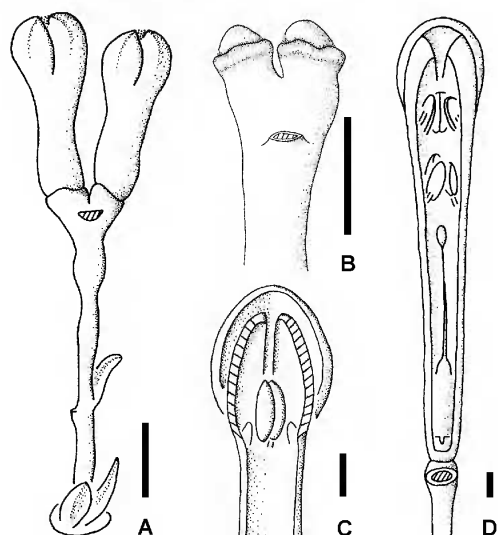


Fig. 1. *Phaleria biflora*. A, inflorescence at early stage of anthesis; B, inflorescence before anthesis; C, D longitudinal sections of a young flower. A–D, *Kajewski* 1499 (B). Scale bar: A–D = 1 mm.

Specimens of other species examined:

***Phaleria chermsideana*: Queensland.** WIDE BAY DISTRICT: Norval Park c. 13km N of Yandaran, NW of Bundaberg, Oct 1996, *Bean* 11149 (BRI); Norville Park, N of Bundaberg, [no date], *Randall* 629 (BRI); 20 miles (32km) NW of Bundaberg, Dec 1982, *Sarnadsky* s.n. [AQ348777] (BRI). DARLING DOWNS DISTRICT: Moss Gardens, border fence, Jan 1990, *Forster* et al. PIF6217 (BRI); The Head near Killarney, Feb 1968, *Jones* 3659 (BRI); Norville Park, 32km NW of Bundaberg, Jul 1983, *Sarnadsky* s.n. [AQ339630] (BRI). MORETON DISTRICT: O'Reilly's Guest House, Nov 1969, *Hockings* 2 [AQ363220] (BRI); Mt Mistake, Oct 1969, *Smith* s.n. [AQ410839] (BRI); Mt Mistake, May 1948, *Smith & Webb* 3692 (BRI). **New South Wales:** Near Kyogle, Oct 1943, *Jones* s.n. [AQ 85756] (BRI).

***Phaleria clerodendron*: Queensland** COOK DISTRICT: Henrietta Creek on Palmerston Highway, Nov, 1979, *Clarkson* 2737 (BRI); Cedar Creek between Bingil Bay and ElArish, Dec 1984, *Jessup* 740 (BRI); Russell River near bridge on Bruce highway, Jul 1963, *Jones* s.n. [AQ85766] (BRI).

***Phaleria disperma*:** A. *Whistler* 6600 (HBG), 4453 (B).

***Phaleria octandra*: Northern Territory:** DARWIN AND GULF DISTRICT: Water Quarry rainforest, Melville Island, Dec 1984, *Jones* 1701 (BRI); 2km NW of Yirrkala, Feb 1988, *Russell-Smith* 4707 (BRI); North central Arnhem land 19km N of Mirringatja, Nov 1987, *Russell-Smith* 3980 (BRI); Yirrkala, Aug 1948, *Specht* 806 (BRI); Banjo jungle, Snake Bay, Melville Island, near airstrip, May 1978, *Webb & Tracey* 12486 (BRI). **Queensland:** COOK DISTRICT: Yam Is, forest adjacent to airfield, Oct 1981, *Clarkson* 4025 (BRI); Shiptons Flat, Nov 1989, *Jessup* et al. GJD2830 (BRI); Cape York, Bamaga, Sep 1963, *Jones* 2554 (BRI); SFR 191 Wongabel, near Atherton, Jan 1963, *Rudder* AFO2569 (BRI). SOUTH KENNEDY DISTRICT: Netherdale,

Mirani Shire, Apr 1980, *McConnell* 2013 (BRI); Mt Mandurana NP 602, c 20km WNW of Mackay, May 1990, *McDonald* 4581 (BRI); *Mueller* s.n. (P).

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